

Grain Drill.

Patented Feb. 19, 1850.



UNITED STATES PATENT OFFICE.

CHARLES A. WAKEFIELD, OF ESSEX COUNTY, NEW YORK.

IMPROVED SEED-PLANTER.

Specification forming part of Letters Patent No. 7,110, dated February 19, 1850.

To all whom it may concern:

Be it known that I, CHARLES A. WAKEFIELD, of the county of Essex and State of New York, have invented a new and useful or Improved Machine for Sowing or Planting Seeds; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1 denotes a top view of my improved sowing-machine. Fig. 2 is an elevation of one side of it. Fig. 3 is an elevation of the other side of it. Fig. 4 is a central vertical and longitudinal section of it. Fig. 5 is an under side or bottom view of it. Fig. 6 is a transverse and vertical section taken through the axis of the regulator, to be hereinafter described. Fig. 7 is a cross section of the regulator, taken through one set of the adjusting-screws of its slides. Fig. 8 is a side view of the regulator.

In the said drawings, A represents the main frame, from which two shafts, B B', extend outward, and two posts, C C', rise upward, as seen in Figs. 1, 2, and 3.

D is the hopper, which is a rectangular box divided into cells *a a a* by means of cross-partitions *b b'*. The ends *cc* of this box extend outward from it and parallel to one another, and are supported and turn on the journals *d d* of the regulator E, which journals have their bearings in the top of the posts C C'.

The regulator E is a cylindrical contrivance composed of a regular prism, *e*, and a series of side plates or boards, *f g h i*, arranged thereon, as seen in Figs. 7 and 8, and secured to it by means of screws *k k*, &c., which pass through slots *l l* in the plates, the said slots, as they are made in each plate, being seen at *l l* in Fig. 9, which is a side view of one of the plates as it appears when detached from the prism. Each of the said plates is made of the same width as that of that side of the prism to which it is directly attached. It is formed in other respects as seen in section in Fig. 7, and so that when each plate is moved beyond and so as to project a short distance from the adjacent edge of the prism there will be a groove or space, *e'*, formed between each two adjacent edges of two plates, as seen in Figs. 7 and 8, such grooves or spaces being for the reception of the seed.

The lower part of the regulator plays within

a semi-cylindric shrouding or casing, *m*, which extends from a continuation of the bottom of the hopper, and between the pieces *cc* and underneath the cylindrical regulator, the front side of the hopper, or that side which is next to the regulator, being made with an opening, *n*, extending from end to end of it, and for the purpose of permitting the seeds to flow freely from the hopper to the regulator.

An apron, G, of cloth or other proper material, is attached to the front side of the hopper and just above the opening *n*, and lies upon and extends over the regulator, as seen in Figs. 1 and 4. This apron serves to keep the seeds within the groove of the regulator during their passage from the hopper toward an inclined board, *o*, which rises up from the separator H and in front of the regulator E, and serves to direct the seeds into the said separator. The said separator consists of a series of hoppers, *p p p p*, arranged together, as seen in red in Figs. 1 and 4, such hopper being made to communicate with one of a series of drills or furrow-openers, *q q q q*, disposed underneath it and extending down from it, as seen in the said figures and in Figs. 2 and 5. These hoppers combined together are connected to two arms, *r s*, Fig. 5, which embrace the ends of a large covering-roller, K, and turn freely on the shaft thereof, the said roller being arranged in the position as seen in the drawings, and having the journals of its shaft *t* supported in suitable bearings in the main frame A.

On one end of the shaft *t* a cone of pulleys, *u*, is fixed, an endless band, *v*, being made to pass about some one of the said pulleys and some one of another set or cone of pulleys, *w*, made to rotate freely on the shaft of the regulator, the said shaft and cone of pulleys being provided with a clutch-lever and clutch, by which they may be connected or disconnected, in order to give rotary motion to or stop the rotary motion of the regulator, as circumstances may require. The said clutch-lever is seen at *x* and the clutch at *y*, they being such as are commonly used for such purposes.

The front part of the separator is supported by means of a caster-roller, *z*, so applied to it as to be capable not only of rotating on its own axis, but of swiveling or turning around horizontally, like the roller of a common caster.

The shafts and main frame work or play freely up and down or rock on the shaft of the great roller K independently of the separator, the two being connected, when necessary, by means of a locking-rod, *a'*, which, being jointed at its rear end to the separator, passes through a staple, *b'*, driven into the shafts. When the operation of connecting the main frame and separator so that they shall not move independently is to be performed the front end of the said rod is passed or sprung under a hook, *c'*, fixed in the shaft.

The rear part of the hopper is sustained by means of two curved rack-bars, *d d'*, which extend upward from the main frame A, and operate in connection with two catch-levers, *e e'*, affixed to the under side of the hopper, and which are respectively made capable of being turned into and out of any one of a series of notches made in each rack-post, as seen at *f'* in Figs. 2 and 3. Fig. 10 exhibits the catch-levers as applied to the under side of the hopper, and made to turn respectively on fulcrums *g' g'*, a retractive spring, *h'*, being so applied to the bottom of the hopper and one or both of the levers as to press their outer arms toward the racks of the posts. By means of such sustaining contrivances the hopper may be adjusted so as to have its bottom at any desirable inclination, either when the machine is working on level or inclined ground, such adjustments being highly important to the correct working of the machine.

By means of such a machine either broadcast sowing or sowing in furrows may be performed at pleasure. By removing the separator the regulator may be employed to sow seed broadcast.

When the separator is used the seed drop from the regulator directly into the separator, and by it are divided into the proper quantities for the several drills.

The division of the hopper into cells is for the purpose of preventing the seed from remaining or working against one end of it when the machine is operating on a hillside.

My machine is what is termed a "horse-drill," as it is generally to be drawn by a horse placed within the shafts. By the revolution of the roller K the regulator is put in rotation. This rotation, however, may be arrested at any time (particularly when the machine is being turned entirely around) by simply unclutching the cone of pulleys from the shaft of the regulator, the same being done by means of the clutch-lever.

The above-described manner of constructing the regulator—viz., with a prism and removable plates having adjusting contrivances—enables a person to readily adapt the regulator to seed of any ordinary size. Each plate, when moved away from that in rear of it, causes an increase in the width of the groove or space between it and the other plate. The making the regulator in this manner renders unnecessary a combination of stationary and adjustable rules or contrivances, such as are ordinarily used, and which present many disadvantages.

What I claim as my invention is as follows:

1. The combination of the curtain or apron with the cylindrical or broadcast regulator E.
2. The manner of constructing the regulator, or, in other words, the combination of the prism with the side plates or boards and their adjusting and confining mechanism, as set forth.

In testimony whereof I have hereto set my signature this 28th day of November, A. D. 1849.

CHAS. A. WAKEFIELD.

Witnesses:

R. H. EDDY,
CALEB EDDY.